

# **James E. Hansen**

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## **Education:**

BA with highest distinction (Physics and Mathematics), University of Iowa, 1963  
MS (Astronomy), University of Iowa, 1965  
Visiting student, Inst. of Astrophysics, University of Kyoto & Dept. of Astronomy, Tokyo University, Japan, 1965-1966  
Ph.D. (Physics), University of Iowa, 1967

## **Research Interests:**

Radiative transfer in planetary atmospheres and interpretation of remote sounding of atmospheres. Development of global climate models. Analysis of climate change, current climate trends, and projections of man's impact on climate.

## **Professional Employment:**

1967-1969	NAS-NRC Resident Research Associate: Goddard Institute for Space Studies (GISS), NY
1969	NSF Postdoctoral Fellow: Leiden Observatory, Netherlands
1969-1972	Research Associate: Columbia University, NY
1972-1981	Staff Member/Space Scientist: Goddard Institute for Space Studies (GISS), Manager of GISS Planetary and Climate Programs
1978-1985	Adjunct Associate Professor: Department of Geological Sciences, Columbia University
1981-present	Director: NASA Goddard Institute for Space Studies
1985-present	Adjunct Professor: Earth and Environmental Sciences, Columbia University

## **Project Experience:**

1971-1974	Co-Principal Investigator AEROPOL Project (airborne terrestrial infrared polarimeter)
1972-1985	Co-Investigator, Voyager Photopolarimeter Experiment
1974-1994	Principal Investigator (1974-8) and subsequently Co-Investigator, Pioneer Venus Orbiter Cloud-Photopolarimeter Experiment
1977-2000	Principal Investigator, Galileo (Jupiter Orbiter) Photopolarimeter Radiometer Experiment

## **Teaching Experience:**

*Atmospheric Radiation* (graduate level): New York Univ., Dept. of Meteorology & Oceanography  
*Intro. to Planetary Atmospheres & Climate Change*: Columbia Univ., Dept. of Geological Sciences

## **Awards:**

1977	Goddard Special Achievement Award (Pioneer Venus)
1978	NASA Group Achievement Award (Voyager, Photopolarimeter)
1984	NASA Exceptional Service Medal (Radiative Transfer)
1989	National Wildlife Federation Conservation Achievement Award
1990	NASA Presidential Rank Award of Meritorious Executive
1991	University of Iowa Alumni Achievement Award
1992	American Geophysical Union Fellow
1993	NASA Group Achievement Award (Galileo, Polarimeter/Radiometer)
1996	Elected to National Academy of Sciences
1996	GSFC William Nordberg Achievement Medal
1996	Editor' Citation for Excellence in Refereeing for Geophysical Research Letters
1997	NASA Presidential Rank Award of Meritorious Executive
2000	University of Iowa Alumni Fellow
2000	GISS Best Scientific Publication (peer vote): 'Global warming - alternative scenario'
2001	John Heinz Environment Award
2001	Roger Revelle Medal, American Geophysical Union
2004	GISS Best Scientific Publication (peer vote): 'Soot Climate Forcing'
2005	GISS Best Scientific Publication (peer vote): 'Earth's Energy Imbalance'
2006	Duke of Edinburgh Conservation Medal, World Wildlife Fund (WWF)
2006	GISS Best Scientific Publication (peer vote): 'Global Temperature Change'
2007	Laureate, Dan David Prize for Outstanding Achievements & Impacts in Quest for Energy

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2007	Leo Szilard Award, American Physical Society for Outstanding Promotion & Use of Physics for the Benefit of Society
2007	Haagen-Smit Clean Air Award
2007	American Association for the Advancement of Science Award for Scientific Freedom and Responsibility
2008	Nevada Medal, Desert Research Institute
2008	Common Wealth Award for Distinguished Service in Science
2008	Bownocker Medal, Ohio State University
2009	Carl-Gustaf Rossby Research Medal, American Meteorological Society

## **Selected Publications:**

- Rockström, J., W. Steffen, K. Noone, Å. Persson, F.S. Chapin, III, E.F. Lambin, T.M. Lenton, M. Scheffer, C. Folke, H.J. Schellnhuber, B. Nykvist, C.A. de Wit, T. Hughes, S. van der Leeuw, H. Rodhe, S. Sörlin, P.K. Snyder, R. Costanza, U. Svedin, M. Falkenmark, L. Karlberg, R.W. Corell, V.J. Fabry, J. Hansen, B. Walker, D. Liverman, K. Richardson, P. Crutzen, and J.A. Foley, 2009: A safe operating space for humanity. *Nature*, **461**, 472-475, doi:10.1038/461472a.
- Hansen, J., Mki. Sato, P. Kharecha, D. Beerling, R. Berner, V. Masson-Delmotte, M. Pagani, M. Raymo, D.L. Royer, and J.C. Zachos, 2008: Target atmospheric CO<sub>2</sub>: Where should humanity aim? *Open Atmos. Sci. J.*, **2**, 217-231, doi:10.2174/1874282300802010217.
- Kharecha, P.A., and J.E. Hansen, 2008: Implications of "peak oil" for atmospheric CO<sub>2</sub> and climate. *Global Biogeochem. Cycles*, **22**, GB3012, doi:10.1029/2007GB003142.
- Hansen, J., 2008: Tipping Point: Perspective of a Climatologist. In *The State of the Wild: A Global Portrait of Wildlife, Wild Lands, and Oceans*. E. Fearn and K.H. Redford, Eds. Wildlife Conservation Society/Island Press, in press.
- Hansen, J., Mki. Sato, R. Ruedy, and 44 co-authors, 2007: Climate simulations for 1880-2003 with GISS modelE. *Clim. Dynam.*, in press, doi:10.1007/s00382-007-0255-8.
- Hansen, J., 2007: Climate catastrophe. *New Scientist*, **195**, no. 2614 (July 28), 30-34.
- Hansen, J., Mki. Sato, P. Kharecha, G. Russell, D.W. Lea, and M. Siddall, 2007: Climate change and trace gases. *Phil. Trans. Royal. Soc. A*, **365**, 1925-1954, doi:10.1098/rsta.2007.2052.
- Hansen, J., Mki. Sato, R. Ruedy, and 44 co-authors, 2007: Dangerous human-made interference with climate: A GISS modelE study. *Atmos. Chem. Phys.*, **7**, 2287-2312.
- Hansen, J.E., 2007: Scientific reticence and sea level rise. *Environ. Res. Lett.*, **2**, 024002, doi:10.1088/1748-9326/2/2/024002.
- Nazarenko, L., N. Tausnev, and J. Hansen, 2007: The North Atlantic thermohaline circulation simulated by the GISS climate model during 1970-99. *Atmos.-Ocean*, **45**, 81-92, doi:10.3137/ao.450202.
- Mishchenko, M.I., B. Cairns, G. Kopp, C.F. Schueler, B.A. Fafaul, J.E. Hansen, R.J. Hooker, T. Itchkawich, H.B. Maring, and L.D. Travis, 2007: Precise and accurate monitoring of terrestrial aerosols and total solar irradiance: Introducing the Glory mission. *Bull. Amer. Meteorol. Soc.*, **88**, 677-691, doi:10.1175/BAMS-88-5-677.
- Novakov, T., S. Menon, T.W. Kirchstetter, D. Koch, and J.E. Hansen, 2007: Reply to comment by R. L. Tanner and D. J. Eatough on "Aerosol organic carbon to black carbon ratios: Analysis of published data and implications for climate forcing". *J. Geophys. Res.*, **112**, D02203, doi:10.1029/2006JD007941.
- Rahmstorf, S., A. Cazenave, J.A. Church, J.E. Hansen, R.F. Keeling, D.E. Parker, and R.C.J. Somerville, 2007: Recent climate observations compared to projections. *Science*, **316**, 709, doi:10.1126/science.1136843.
- Hansen, J., 2006: The threat to the planet. *New York Rev. Books*, **53**, no. 12 (July 13, 2006), 12-16.
- Hansen, J., Mki. Sato, R. Ruedy, K. Lo, D.W. Lea, and M. Medina-Elizade, 2006: Global temperature change. *Proc. Natl. Acad. Sci.*, **103**, 14288-14293, doi:10.1073/pnas.0606291103.
- Nazarenko, L., N. Tausnev, and J. Hansen, 2006: Sea-ice and North Atlantic climate response to CO<sub>2</sub>-induced warming and cooling conditions. *J. Glaciol.*, **52**, 433-439.
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